



OPERATING MANUAL

MRX 300 / 500 / 700 AUDIO / VIDEO RECEIVER



IMPORTANT SAFETY INSTRUCTIONS



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any of the ventilation openings. Install in accordance with the manufacturer’s instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
11. Only use the attachments/accessories specified by the manufacturer.
12. Use only with a cart, stand, tripod, bracket or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. Avoid installing this unit where foreign objects may fall onto this unit and/or this unit may be exposed to liquid dripping or splashing. On the top of this unit, do not place:

- Burning objects (i.e. candles), as they may cause fire, damage to this unit, and/or personal injury.
- Containers with liquid in them, as they may fall and liquid may cause electrical shock to the user and/or damage to this unit.

Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

Do not install this equipment in a confined space such as a case or similar. Install it away from direct sunlight, heat sources, vibration, dust, moisture, and/or cold.

Do not cover this unit with a newspaper, tablecloth, curtain, etc. in order not to obstruct heat radiation. If the temperature inside this unit rises, it may cause fire, damage to this unit, and/or personal injury.

Install this unit near the AC outlet and where the AC power plug can be reached easily.

This unit is not disconnected from the AC power source as long as the Main Power Switch on the rear panel is ON. This state is called the standby mode. In this state, this unit is designed to consume a very small quantity of power.

NOTE: This product is not an auto voltage Receiver. Connect only to the prescribed AC outlet, i.e., 120V 60Hz or 230V 50Hz.

CAUTION: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions, unless you are qualified to do so.

CAUTION: Changes or modifications to this equipment not expressly approved by Paradigm Electronics for compliance could void the user's authority to operate this equipment.

FCC WARNING: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

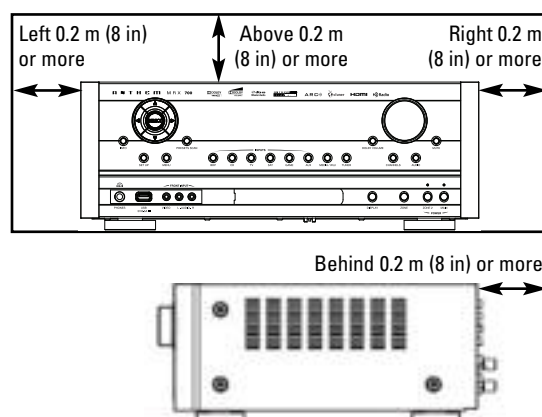
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.

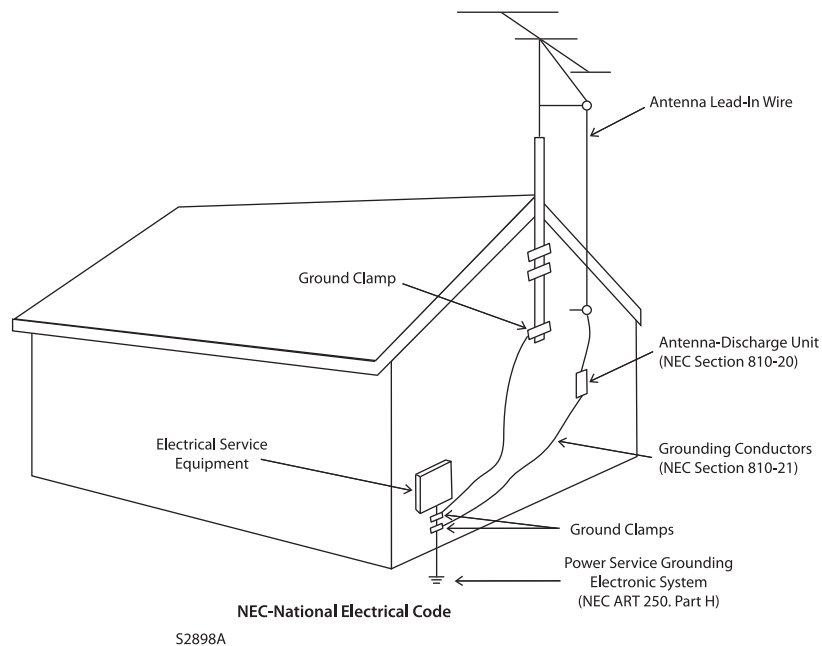
DO NOT LOCATE IN THE FOLLOWING PLACES:

To ensure long-lasting use, do not locate the unit:

- Exposed to direct sunlight.
- Near sources of heat such as heaters.
- Highly humid or poorly ventilated.
- Dusty.
- Subjected to mechanical vibrations.
- On wobbly, inclined, or otherwise unstable surfaces.
- Near windows where there is a chance of exposure to rain, etc.
- On top of an amplifier or other component which dissipates a great deal of heat.

To ensure proper heat radiation ensure clearance from walls and other equipment according to diagram.





IMPORTANT INFORMATION FOR UK CUSTOMERS: DO NOT cut off the mains plug from this equipment. If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain an appropriate safety approved extension lead or consult your dealer. If, nonetheless, the mains plug is cut off, REMOVE THE FUSE and dispose of the PLUG immediately, to avoid possible shock hazard by inadvertent connection to the mains supply. If this product is not provided with a mains plug, or one has to be fitted, then follow the instructions given below:

IMPORTANT: DO NOT make any connection to the larger terminal which is marked with the letter "E" or by the safety earth symbol or colored GREEN or GREEN AND YELLOW.

The wires in the mains lead on this product are colored in accordance with the following code:

BLUE – NEUTRAL

BROWN – LIVE

As these colors may not correspond with the colored markings identifying the terminals in your plug, proceed as follows:

The BLUE wire must be connected to the terminal marked with the letter "N" or colored BLACK.

The BROWN wire must be connected to the terminal marked with the letter "L" or colored RED.

When replacing the fuse, only a correctly rated and approved type should be used, and be sure to re-fit the fuse cover.

If in doubt consult a competent electrician.

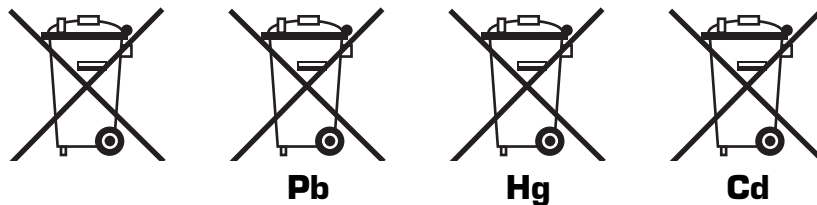
NOTES ON ENVIRONMENTAL PROTECTION

At the end of its useful life, this product must not be disposed of with regular household waste but must be returned to a collection point for the recycling of electrical and electronic equipment. The symbol on the product, user's manual and packaging, point this out. The materials can be reused in accordance with their markings. Through re-use, recycling of raw materials or other forms of recycling of old products, you are making an important contribution to the protection of our environment. Your local administrative office can advise you of the responsible waste disposal point.

INFORMATION ABOUT COLLECTION AND DISPOSAL OF WASTE BATTERIES (DIRECTIVE 2006/66/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL OF EUROPEAN UNION) (for European customers only)

Batteries bearing any of these symbols indicate that they should be treated as "separate collection" and not as municipal waste. It is encouraged that necessary measures are implemented to maximize the separate collection of waste batteries and to minimize the disposal of batteries as mixed municipal waste. End-users are exhorted not to dispose waste batteries as unsorted municipal waste. In order to achieve a high level of recycling waste batteries, discard waste batteries separately and properly through an accessible collection point in your vicinity. For more information about collection and recycling of waste batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

By ensuring compliance and conformance to proper disposal of waste batteries, potential hazardous effects on human health is prevented and the negative impact of batteries and waste batteries on the environment is minimized, thus contributing to the protection, preservation and quality improvement of the environment.



Anthem and any related party assume no liability for the user's failure to comply with any requirements.

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Big Pictures of Front and Rear Panels	Inside Back Cover
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1. INTRODUCTION

Thank you for purchasing the Anthem MRX series receiver.

The MRX 300, MRX 500, and MRX 700 receivers are cutting-edge home theater audio components with HDMI switching and video upconversion, multimedia and second zone capabilities, FM/AM tuner, HD Radio™ reception (MRX 700 120V model) and connection for optional MRX1 iPod / iPhone dock.

Anthem products are engineered to recreate the passion of live performance and thrill of the best movie theaters by using the highest level of circuit design, proprietary software, superior build quality, innovative features, and intuitive ergonomics with tremendous flexibility.

1.1 BEFORE MAKING CONNECTIONS

Check that you have received everything listed below and report discrepancies to your dealer as soon as possible. In case they are needed one day, keep the packing materials and the invoice that you received from your authorized Anthem dealer at time of purchase – without it, service will not be provided under warranty.

Packing List:

- MRX Receiver
- FM antenna
- Zone 2 remote control
- Main remote control
- AM loop antenna
- CR2025 battery
- 2 AAA batteries
- IEC power cord (US or EU type only)

Additional items with Anthem Room Correction (ARC):

- Software installation CD
- Microphone and clip
- Telescopic stand
- Serial extension cable
- USB microphone cable

Serial Number:

- While it's accessible, record it here for future reference _____

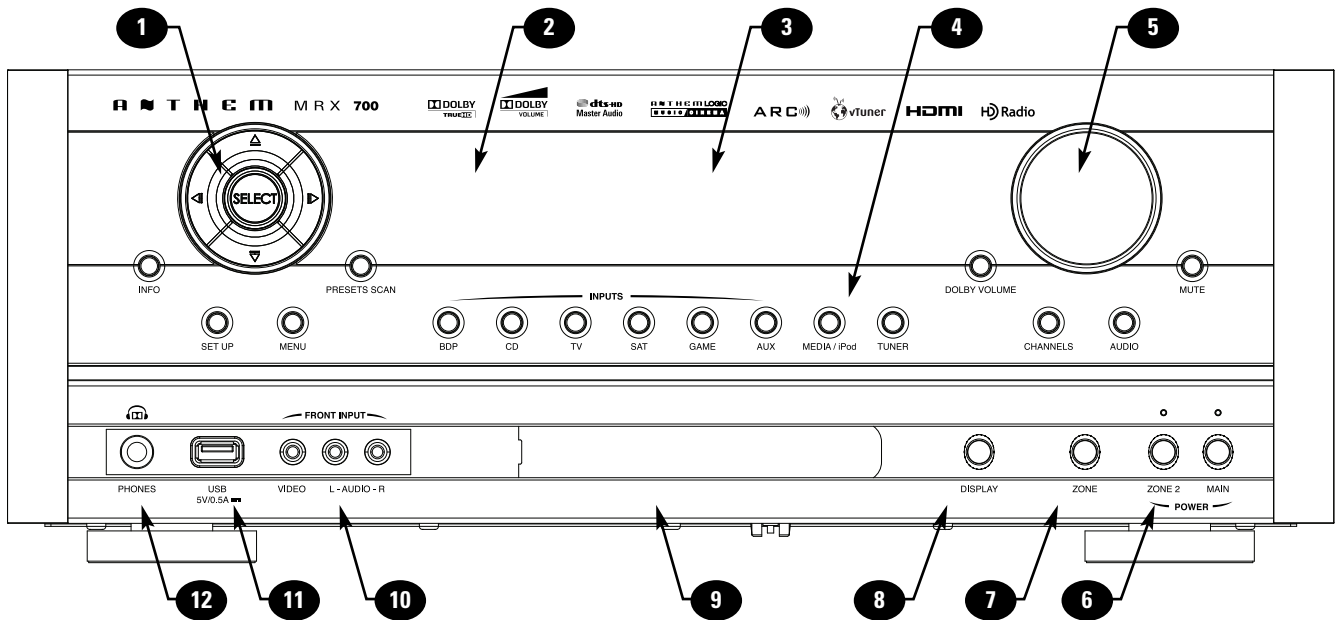


1.2 IN-USE NOTICES

- Disconnect the power cord before connecting or disconnecting any components.
- If the receiver was transported or stored in the cold, let it warm to room temperature before use.
- Due to continuing advances operational characteristics may change. If this manual contains discrepancies please check www.anthemAV.com for the latest manual or software.

1. INTRODUCTION continued ...

1.3 FRONT PANEL (MRX 700 US model shown, others are similar)



- | | |
|---|---|
| 1 – Navigation buttons for setup and multimedia | 7 – Main / Zone 2 selection |
| 2 – Remote control sensor location | 8 – Display brightness |
| 3 – Display | 9 – Sliding cover for front connections |
| 4 – Input selection | 10 – Front AV input |
| 5 – Volume and level functions | 11 – USB input (5VDC/0.5A) (not available on MRX 300) |
| 6 – Power on / standby | 12 – Headphone connection* |

*Uses Dolby Headphone to process 5.1-channel content so none of it is lost in the 2-channel headphone downmix.

For a larger diagram see inside back cover.

1. INTRODUCTION continued ...

1.4 FRONT PANEL DISPLAY

MAIN Display Example:



- 1 – Source selection.
- 2 – Video input resolution.
- 3 – Number of front/surround channels.
- 4 – Audio format.

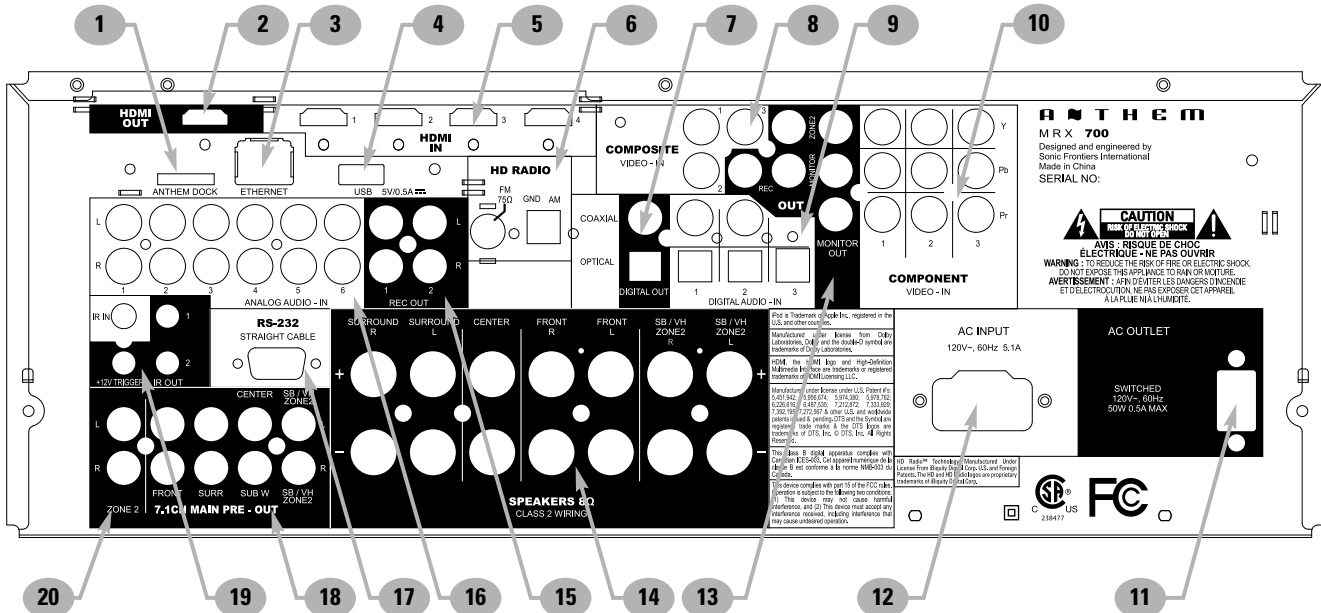
Tuner Display Example:



- 1 – Band and preset.
- 2 – Frequency. AM is tuned to nearest 10 kHz (120V model) or 9 kHz (230V model).

1. INTRODUCTION continued ...

1.5 REAR PANEL (MRX 700 US model shown, others are similar)

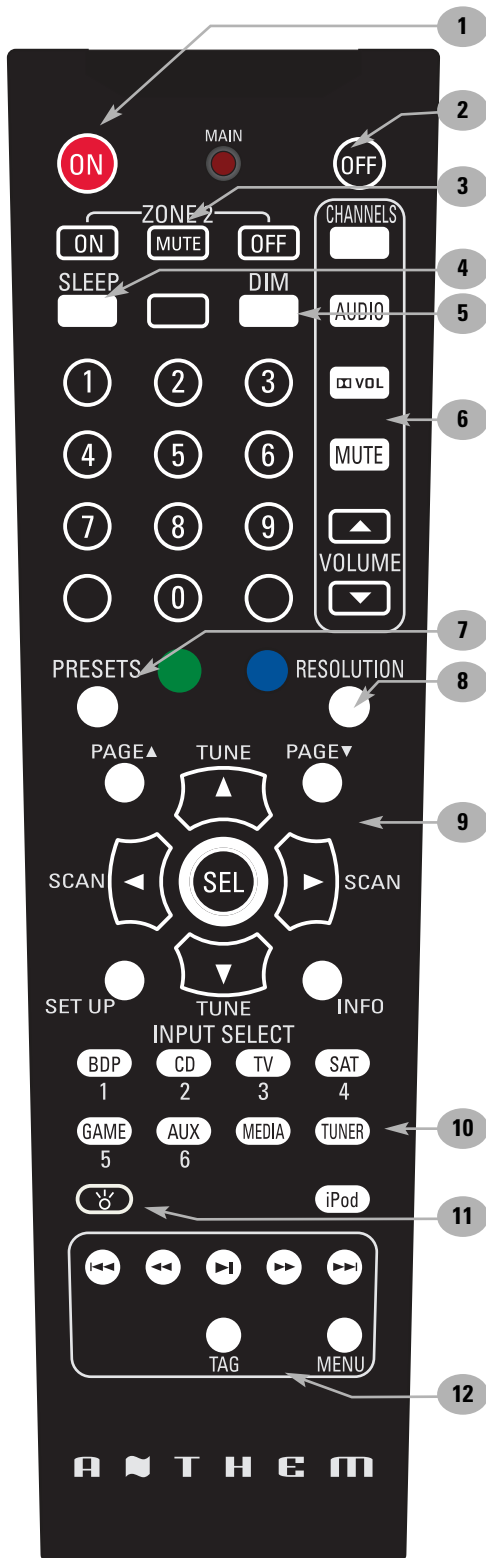


- | | |
|--|--|
| 1 – Connection for optional MDX 1 dock | 11 – Switched AC outlet (50W maximum output) |
| 2 – HDMI output | 12 – AC input |
| 3 – Ethernet connection | 13 – Component video outputs (via scaler) |
| 4 – USB input (5VDC/0.5A) (not available on MRX 300) | 14 – Speaker connections |
| 5 – HDMI inputs | 15 – Record audio outputs |
| 6 – Tuner antenna connections | 16 – Analog audio L/R inputs |
| 7 – Coaxial and optical digital audio outputs | 17 – RS-232 interface (bidirectional) |
| 8 – Composite video inputs | 18 – Main pre-out connections |
| 9 – Coaxial and optical digital audio inputs | 19 – IR and trigger connections |
| 10 – Component video inputs | 20 – Zone 2 audio outputs |

For a larger diagram see inside back cover.

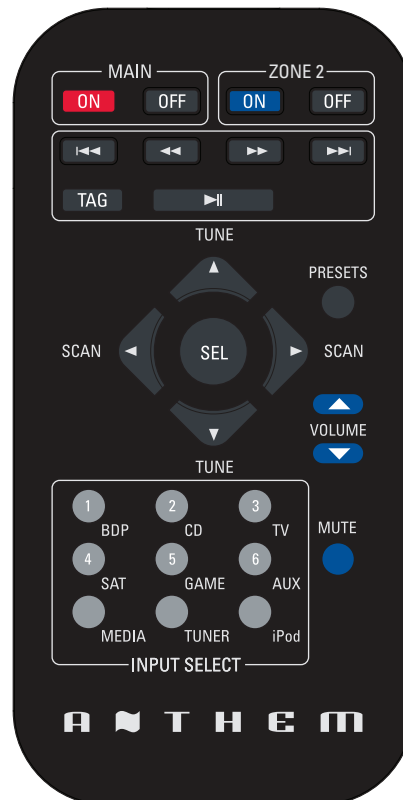
1. INTRODUCTION continued ...

1.6 REMOTE CONTROLS



- 1 – Main zone power on
- 2 – Main zone power off
- 3 – Zone 2 power and mute
- 4 – Main sleep control
- 5 – Front panel dimmer control
- 6 – Main zone audio controls
- 7 – Tuner presets control
- 8 – Main video output resolution control
- 9 – Navigation and tuner controls
- 10 – Input selectors
- 11 – Backlight control
- 12 – Multimedia controls

Zone 2 remote control:



Note: MRX 300/500/700 cannot access MEDIA from Zone 2

1. INTRODUCTION continued ...

1.7 SPEAKER PLACEMENT

The illustration below shows typical 7.1-channel speaker placement. The subwoofer can be placed in any location where severe resonances are prevented – see section 3.2.



The illustration below shows 7.1-channel speaker placement for use with Dolby Pro Logic IIz.



2. CONNECTIONS

2.1 VIDEO CONNECTIONS

To configure inputs **see section 3.5** and to configure video outputs **see section 3.1**.

HDMI:

Video is sent with audio from source components to the receiver. Maximum video resolution is 1080p60. Connect MAIN HDMI output to a display with HDMI or DVI input – one with High-bandwidth Digital Content Protection (HDCP) is required to display copy-protected material. Disc players usually enable HDCP even on home movies.

Before calling for technical support due to bad, intermittent, or no picture via HDMI:

1080p uses twice the bandwidth that 720p and 1080i do – make sure that the cable is suitable for the application otherwise the picture may contain pixel dropouts or not play at all.

Use HDMI Category 2 cables, also known as “v1.3 certified”. This is a requirement for all connecting devices including extenders when connecting a display that supports Deep Color (10- or 12-bit). Connecting devices that worked in an older setup may not work with Deep Color. If the source allows Deep Color to be turned off, start troubleshooting by turning it off.

12-bit Deep Color that works at 1080p24 may not work at 1080p50 or 1080p60.

Be careful when connecting HDMI cables. The connector should easily slide in the jack – do not insert it on an angle and do not force it. Each connector contains 19 delicate pins and damaged pins can damage jacks. Such damaged jacks are not covered by warranty. If your HDMI cables have been connected enough times that they are about to wear out, we recommend that you replace them.

If using DVI connection note that cables with DVI connection on one end and HDMI connection on the other are more reliable than DVI-HDMI adapters. If you are having a connection problem and an adapter is in use, start troubleshooting by eliminating the adapter.

Cable and satellite receivers: Some disable their component video output once HDMI is connected. To use the cable/satellite box in a secondary zone that uses component video, connect the box to the receiver via component, not HDMI.

Older cable and satellite receivers: HDMI connection may be problematic especially when output resolution changes between SD, 720p, and 1080i according to the channel. In such a case use component video connection instead, with coaxial or optical connection for audio.

Component Video:

Component video uses three coaxial cables and has a maximum resolution of 1080p when unprocessed or 480p when the source is copy-protected with Macrovision. Maximum input resolution is 1080i60 if the input is processed or converted to HDMI. The second Component output can be used in MAIN, processed or unprocessed, or in ZONE2.

Composite Video:

Maximum resolution is 480i (NTSC) / 576i (PAL). This traditional format combines the black/white and color information for transmission on a single coaxial cable. To be displayed, the information has to be separated, a process that degrades video quality.

2. CONNECTIONS continued ...

2.2 AUDIO CONNECTIONS

Digital Audio Inputs and Outputs:

Digital audio sources can be connected with a coaxial, optical, or HDMI cable. These carry 2-channel PCM, Dolby Digital, and DTS. The HDMI inputs also accept up to eight channels of PCM.

Use the HDMI inputs if your display has HDCP-compliant HDMI or DVI input, otherwise use the coaxial or optical inputs. Any digital input can be assigned to any number of sources that are set to digital. Should you need audio from the HDMI output to your display, it's 2-channel PCM. **To change digital audio connection from factory default, see section 3.5.**

Digital Rec-Out can provide a signal to the digital audio input of a Mini Disc recorder, CD recorder etc. from any coaxial or optical audio source.

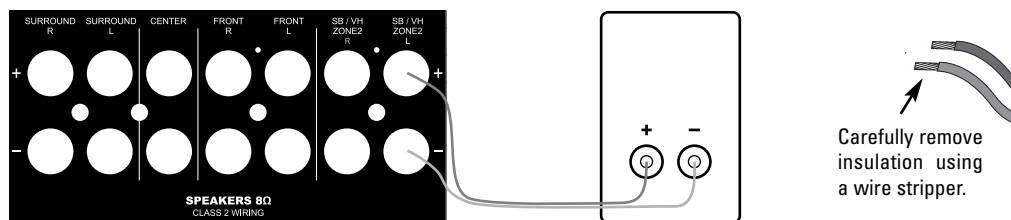
Analog Audio Inputs and Outputs:

Analog audio connections are made with RCA connectors. To use ZONE2 or RECORD analog outputs, connect digital and analog audio and video from digital sources (there is no output without analog input).

Speakers:

Connect using speaker wire. US models also allow use of banana plugs. Note that on the rear panel the AUX speakers are labeled as SB (surround back for conventional 7.1-channel system), VH (vertical height for front ceiling speakers using Dolby Pro Logic IIz), and Zone 2 left and right speakers.

Connect the positive (+) connection on the speaker to the positive (+) binding post on the appropriate receiver channel, and the negative (–) connection on the speaker to the negative (–) binding post on the same receiver channel, using cable that is insulated to handle the maximum output of the receiver.



Do NOT connect more than one speaker to each receiver channel. Be sure that power is turned off when connecting or disconnecting anything and that the speakers are rated for use with this receiver.

2.3 ANTENNAS

To connect the AM loop antenna, press the spring-loaded tabs of the AM ANTENNA connector and insert the bare ends of the two wires. Move the antenna until best reception is found.

For the FM antenna, use the FM ANTENNA connector. Later, when unit is operating move the antenna to find best reception. If your cable company provides FM service, you can connect the cable to the receiver.

2. CONNECTIONS continued ...

2.4 **ETHERNET** (not available on MRX 300)

This connection is required for use of vTuner Internet radio. Connect using CAT 5 cable or wireless receiver.

2.5 **12 VOLT TRIGGER**

If another system component has a trigger input, you activate it with the receiver. Connect the receiver's trigger output using a cable with 3.5mm mono mini plugs.

The receiver provides flexible trigger options. Through the setup menu, you can specify the conditions for enabling triggers (see section 3.9).

2.6 **INFRA RED INPUT**

An external IR receiver allows the remote control to be used from another location in your home. Once an IR receiver is wired to another room, connect it to the IR IN input.

2.7 **INFRA RED OUTPUT**

IR emitters allow control of your source components from any location in your home that has an IR receiver connected to the receiver. After positioning the IR emitter according to its instructions, connect it to IR OUT. Commands through the rear panel IR IN are re-transmitted through IR OUT.

2.8 **SWITCHED AC OUTLET**

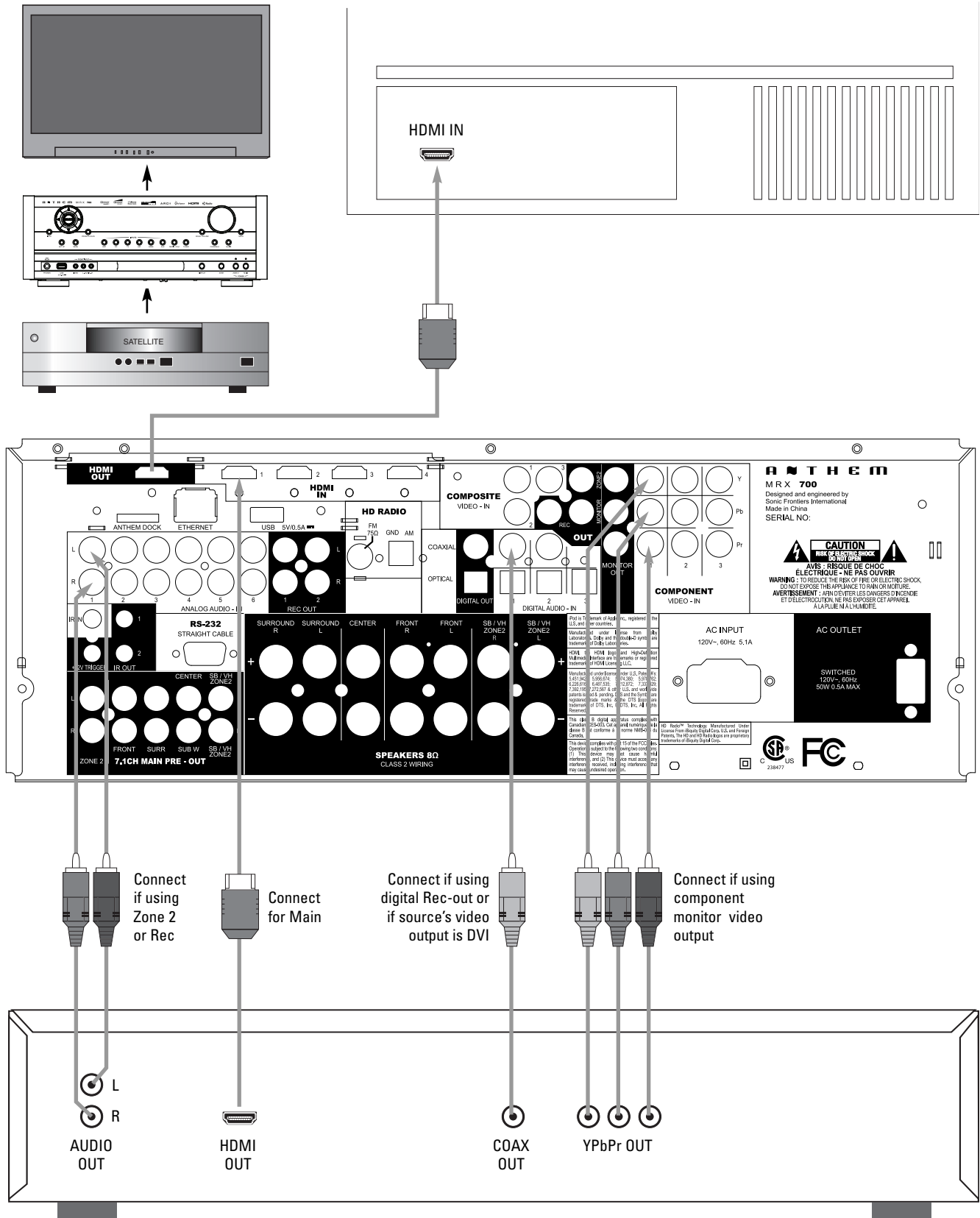
This can be used to power smaller devices which require no more than 50W. Power at the outlet is turned off when the receiver is turned off.

2.9 **POWER**

Connect the power cord to the receiver and the power source.

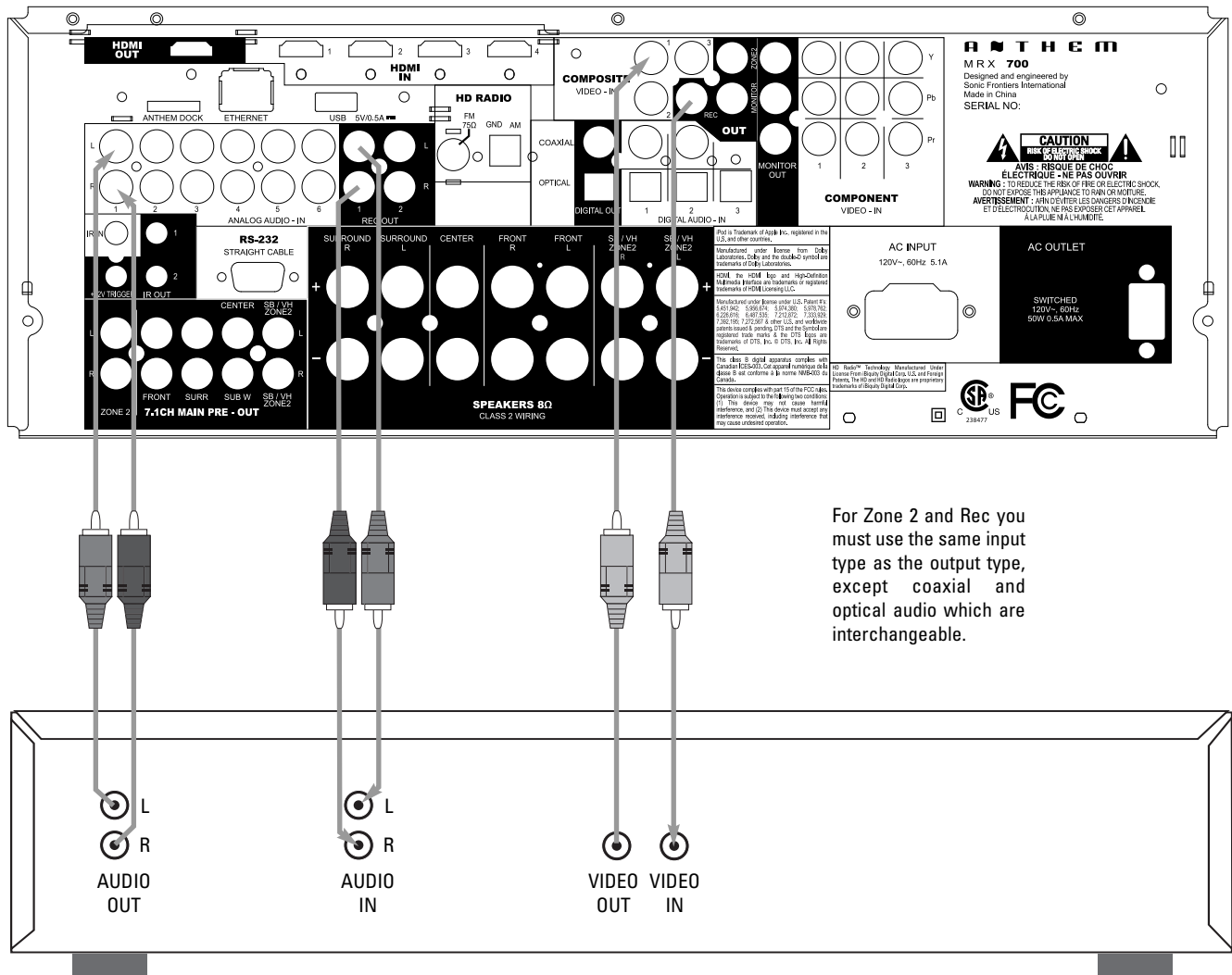
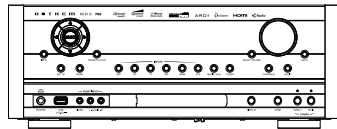
2. CONNECTIONS continued ...

Example 1: Disc Player to receiver to main display



2. CONNECTIONS continued...

Example 2: A/V Recorder to receiver

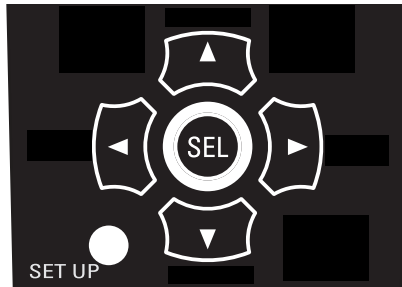


3. SETUP

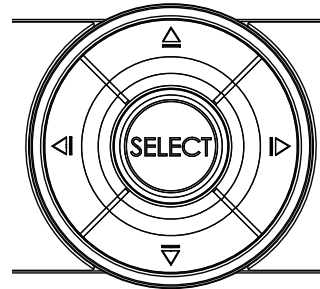
For optimum performance and enjoyment, your receiver should be properly set up. This may appear like a lot of work but keep in mind that most settings do not need to be changed from defaults.

The most important things are entering information about your display and speakers if the defaults do not apply, and the distance from each speaker to the listening area. The rest is Anthem Room Correction-related and preference – the listening mode presets, for example, should be set up **after** you have played various sources and have decided which surround modes you like best.

Remote Control



Front Panel

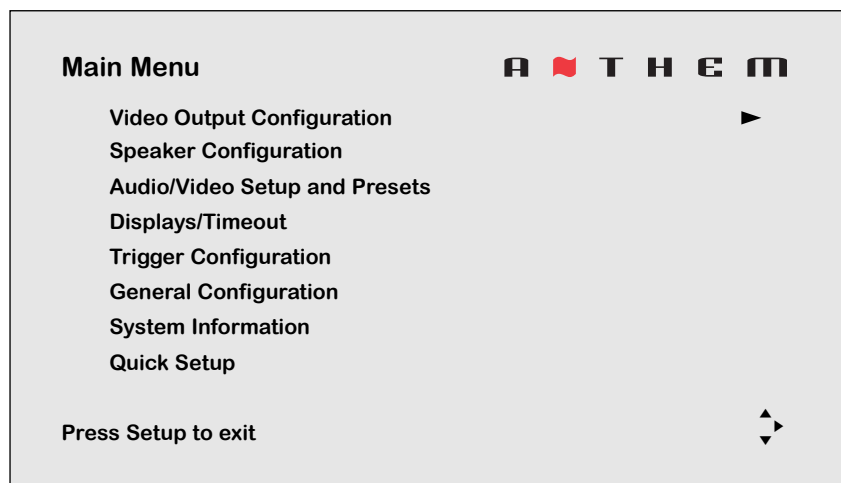


HOW TO NAVIGATE IN THE SETUP MENU

- Press **SETUP** to enter or exit.
- Use the **▲ ▼** and **◀ ▶** buttons to scroll through menus and selections.
- Press **SELECT** to set a selection.

Upon entering the setup menu your display will usually show the menu below if connected with HDMI. Up to eight menu items are displayed at once – for clarity this manual shows each menu with all items. On-screen display is recommended although the front panel shows similar information, one item at a time.

If on-screen display is not shown on your TV, use the front panel display to set appropriate video output.



To go to a submenu, highlight a menu item and press **▶**. To return to the previous menu press **◀**. Up to four small arrows on each screen's lower right indicate next possible steps.

3. SETUP continued ...

QUICK SETUP

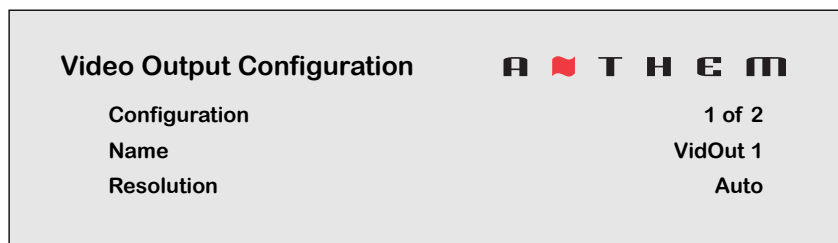
Highlight Quick Setup and press ►. Up to four questions will appear on-screen, one at a time in sequence, with multiple choice answers depending on previous answer:

- **Do you use an HDMI/DVI TV?** No / Yes
- **Component video output resolution?** 480i / 480p (120V model) or 576i / 576p (230V) / 720p / 1080i
- **Do you have a subwoofer?** No / Yes
- **How many additional speakers do you have?** 7 (ceiling) / 7 (back) / 5 / 2

For detailed setup, follow the rest of section 3.

3.1 VIDEO OUTPUT CONFIGURATION

Highlighting Video Output Configuration then pressing ► displays this menu:



Video Output Configurations:

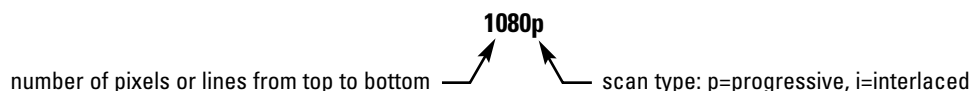
Two configurations can be set up, each assignable to each input. Only one is needed in most cases. The second can be used with a secondary display that needs different a different setting, for example one connected to Monitor component video output. Output assignment by source is explained in section 3.5.

Name:

Each configuration can be renamed using the navigation keys, with names up to 8 characters long.

Resolution:

Resolution is represented as follows:



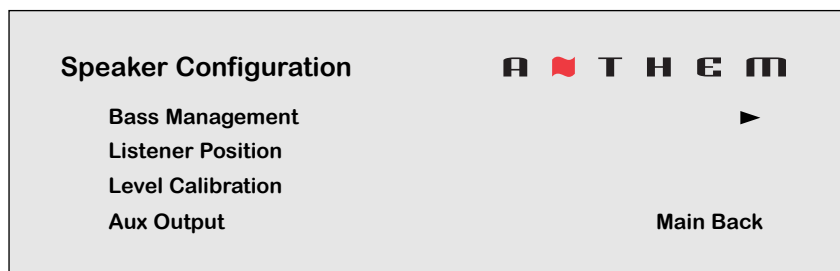
The default is Auto which sets resolution according to highest capability reported by the display's HDMI connection. If you wish to set a different resolution and it matches that of your TV, the choices are 480i/480p (US model) or 576i/576p (EU model), 720p, 1080i, 1080p, or Through in which the receiver's output resolution is the same as the source's resolution.

Movies on Blu-ray discs can be shown with the original 24 frames per second, as shot by the movie camera. If your Blu-ray player can be set to output 1080p-24, also known as 24p mode, and your TV accepts this format, the receiver will select 1080p-24 when such a source is playing. This results in smoother motion.

To prevent loss of video output as you scroll through settings, a resolution selection change does not take place immediately. Once you leave this menu, it asks for confirmation – use the ◀ ▶ buttons to change to Yes, then press **SELECT**. To put a change into effect before leaving the menu, press **SELECT** then confirm.

3.2 SPEAKER CONFIGURATION

This menu allows you to enter information about your speakers so that sounds from sources are not lost or distorted. If your source components have bass management and time alignment, turn them off by setting all channels “large” and to the same distance in the source components.



Skip Bass Management and Level Calibration if using Anthem Room Correction (ARC) with all inputs.

Aux Output:

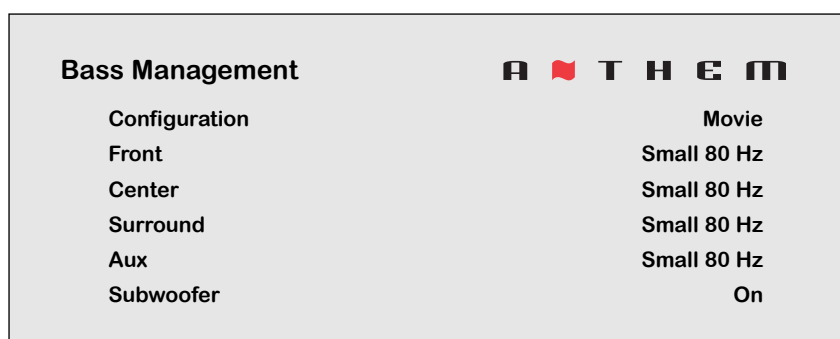
Select Main Back, Main Ceiling, or Zone 2. The Main Ceiling setting enables use of Dolby Pro Logic IIz which improves the spatial experience, especially for games, using height speakers above the front left and front right speakers.

If you are using 5.1 speakers, use the Surround outputs and set Aux to Zone 2 so no sound is lost.

Bass Management:

Bass management is a crossover that divides audio in two frequency bands suitable for subwoofer/satellite speaker systems, resulting in lower bass level for satellite speakers and no midrange/treble in the subwoofer. If your subwoofer has a crossover, it should be bypassed – set its frequency control to the highest frequency to avoid a double crossover.

The receiver memorizes two configurations – each is assignable according to input. Normally, only Movie configuration is needed. Highlighting Bass Management then pressing ► displays this menu:



Small or Large:

Most speakers should be set to Small and used with a subwoofer unless they use large drivers that play deep bass accurately. Even then, the question is which speaker can produce deeper and cleaner bass at higher output? It should be the subwoofer, which besides being made for bass, has the advantage of flexible positioning in the room to help control boominess.

3. SETUP continued ...

Crossover Frequency:

A crossover does not cut frequencies off like a cliff, but rolls them off according to a slope. If set to 80 Hz, for example, your main speakers will still play lower frequencies – they just won't have to play them as loudly. This also lightens the load on the amplifier leaving extra power for mid and high frequencies.

Select 60, 80, 100, 120 or 150 Hz according to the low frequency capability of your speakers.

"Off" setting for:

- **Center** – the center channel plays from the L/R fronts.
- **Surround** – the L-Surround channel plays from the L-Front channel and the R-Surround channel plays from the R-Front channel (except Dolby Pro Logic modes).

Subwoofer:

The subwoofer plays two things – LFE (Low Frequency Effects channel in multichannel soundtracks and bass from channels set to Small. Select On or Off.

Bass response highly depends on room acoustics and experimentation with subwoofer placement is recommended. Start by temporarily placing the subwoofer in the listening area, play some music with a range of bass and walk around the room. Positions where the bass range sounds smooth are suitable for permanent subwoofer placement as long as decor allows.

3.3 LISTENER POSITION

The Listener Position menu lets you enter the distance between each speaker and the listening area. The channel with the greatest distance setting will have no delay while channels with shorter distance settings will be delayed according to their setting. This way, sound reaches the listening area at the same time from all speakers, and proper imaging can be achieved.

Listener Position		A R T H E M
Measurement Units		Feet
Front Left		12 ft
Center		12 ft
Front Right		12 ft
Surround Right		8 ft
Surround Left		8 ft
Subwoofer		12 ft
Aux Right		6 ft
Aux Left		6 ft

Measurement Units:

Feet (ft) or Metres (m).

Distance Adjustment:

Enter the distance between your primary listening area and each speaker. Range is 0-30 ft in 1 ft increments or 0-9 m in 0.3 m increments.

3. SETUP continued ...

3.4 LEVEL CALIBRATION

Level Calibration uses internal test noises to match speaker output levels at the listening position. These noises are also a way of checking system connections between receiver, amplifier, and speaker. Audio calibrations from home theater setup discs are not recommended – some use incorrect methods.

A sound pressure level (SPL) meter with C-weighting is recommended if not using ARC. Measure from the listening position, pointing the meter up and holding it away from your body to prevent reflections.

The CHANNELS control does not change settings in this menu – it provides on-the-fly adjustment memorized according to input format in case a source needs it.

Level Calibration		A T H E M
Dolby Volume Leveler Amount		9
Dolby Volume Calibration Offset		0 dB
Noise Sequence		Off
Front Left		0 dB
Center		0 dB
Front Right		0 dB
Surround Right		0 dB
Surround Left		0 dB
Movie Subwoofer		0 dB
Music Subwoofer		0 dB
Aux Right		0 dB
Aux Left		0 dB

No adjustments in this menu are necessary when using ARC, except setting Dolby Volume Leveler Amount according to preference.

Dolby Volume Mode (MAIN only):



Dolby Volume makes content with large differences in volume easier to listen to by analyzing it and intelligently adjusting two things – level and frequency response. It does this continually without causing pumping and breathing artifacts that are common with traditional dynamic range compressors. In doing so, the volume setting is taken into account as is our hearing’s declining sensitivity to the lowest and highest frequencies relative to the midrange as their levels drop. The result is that the perceived frequency response remains constant while making quieter parts of the content more listenable.

Dolby Volume Leveler Amount:

The leveling amount that Dolby Volume provides can be set from Low to High with nine “medium” steps between, or Off. Play various sources before finding your preferred setting. When Dolby Level is Off the frequency response adjustment still applies unless Dolby Volume is also Off.

Dolby Volume Calibration Offset:

If using an SPL meter, adjust level so it reads 75 dB. This normally needs no adjustment from 0 dB.

3. SETUP continued ...

Test Noise Sequence:

Test noise plays from one speaker at a time, changed by using the ▲ ▼ buttons.

Level Calibration of each channel:

Balances speaker levels to one another. If you're calibrating by ear, use the remote control and sit in the listening area when adjusting. If using an SPL meter, adjust level so it reads 75 dB for each channel. If Noise Level is set while Front-L is at 0 dB, no adjustment of Front-L is needed since the output is the same. If using a powered subwoofer, make a rough adjustment with its input level control before setting sub level in this menu or using ARC. Speakers set to Off in the Bass Management menu are skipped.

If using multiple subwoofers they must be balanced to one another before further audio setup, including when using ARC. Play the subwoofer test noise with only one subwoofer connected at a time. Set its input level dial so the SPL meter reads 71 dB from the listening area if using two subs or 67 dB if using four subs. Repeat this for the remaining subs. When all are connected the result should be around 75 dB. ARC sets the final level. If not using ARC, change the level of all subs equally for a combined result of 75 dB SPL.

To fine-tune the level or phase of each sub relative to one another, listen to FM "shhhh" noise through the subwoofers only by disconnecting the receiver's speaker outputs, and adjust (or better yet have someone else adjust) the sub's level and/or phase control until bass is loudest in the listening area.

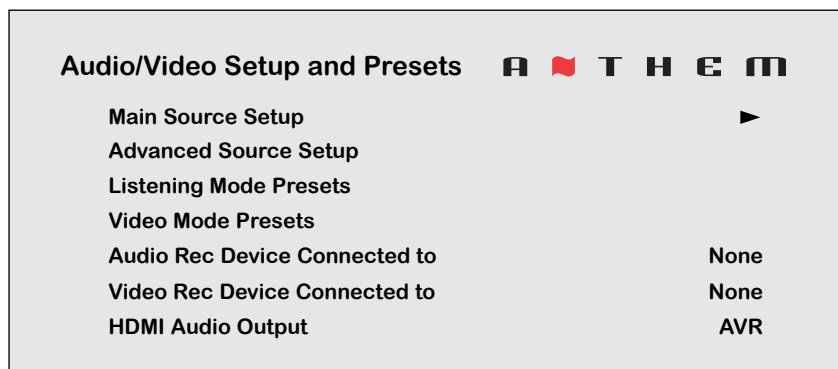
Procedure for Manual Test Sequence (not needed when using ARC):

- Set NOISE SEQUENCE to Manual.
- Press the ▲ ▼ buttons to go from speaker to speaker.
- As each speaker plays, use the ◀ ▶ buttons to adjust its loudness relative to other speakers.
- Press ◀ to stop the test noise.

3. SETUP continued ...

3.5 SOURCE SETUP

Inputs and preset listening mode presets are configured in this section.



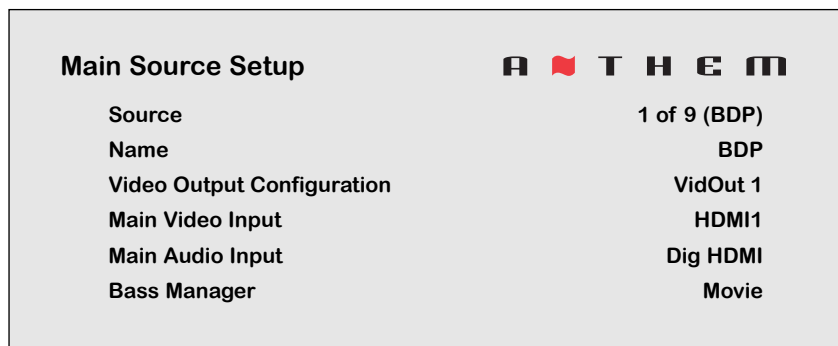
Audio / Video recording device connected to:

Select the receiver input that the output of your recording device is connected to. This will prevent feedback if the recorder is accidentally selected as the source to record (a recorder cannot record itself).

HDMI Audio Output:

When set to AVR, no audio is sent to the TV. When set to AVR+TV or TV, audio will be sent to the TV by the receiver but the format sent to the receiver by the HDMI audio source will be according to the TV's capability (e.g. 2-channel), not the receiver's which is normally higher.

Selecting Main Source Setup displays this menu:



Name:

The source names that appear on the front panel display and some other menus can be changed, up to 8 characters long.

Example: Rename "BDP" to "Blu-ray".

- Highlight "Name" and press **SELECT**. The first character (a space) will be highlighted in red.
- Use the ▲ ▼ buttons to change characters. Change the first one to "B".
- Use the ◀ ▶ buttons to move to each remaining character and complete the renaming.
- Press **SELECT** to return to the menu.

3. SETUP continued ...

Video Output Configuration (MAIN only):

For the source, select the most appropriate configuration that is set in Video Output Configuration menu.

Main Video Input / Main Audio Input / Bass Manager:

Assign input connections and bass management to be used for main output when the source is selected.

Selecting Advanced Source Setup displays this menu:

Advanced Source Setup		A T H E M
Source		1 of 9 (BDP)
Main/Rec Composite Input		Composite 1
Main/Rec Analog Audio Input		Analog 1
Z2 Composite Input		Composite 1
Z2 Analog Audio Input		Analog 1
Lip-Sync Delay		0 ms
ARC (Room EQ)		Not Available
Bass		0 dB
Treble		0 dB
Dolby Volume Mode		On
Dolby Volume Half Mode		On
Dolby Volume Cinema Reference Mode		On

Main/Rec Composite and Analog Audio inputs:

Assign input connections to be used for analog Rec output when the analog A/V source is selected in Main.

Zone 2 Composite and Analog Audio inputs:

Assign input connections to be used for Zone 2 output when the analog A/V source is selected in Zone 2.

Lip-Sync Delay (MAIN only):

If audio is heard before its corresponding image is seen, you can set up to 150 milliseconds of audio delay – set using synchronization test disc or trial and error. Delay can also be set while watching video (section 4).

Room EQ (MAIN only):

To disable room correction equalization performed with the ARC microphone kit, change this to Off. If measurement info isn't loaded "N/A" is displayed.

Bass / Treble (MAIN only):

If a source needs a full-time tone adjustment for better sound, it can be done through this menu.

Dolby Volume Mode (MAIN only):

Select On or Off to enable or disable Dolby Volume.

Dolby Volume Half Mode (MAIN only):

When on, frequency response is not adjusted when playback level is higher than reference level. This is the recommended setting.

Dolby Volume Cinema Reference Mode (MAIN only):

Select On or Off. When on, Dolby Volume takes into account the difference in reference level used in movie production from that in music production.

3.6 LISTENING MODE PRESETS

Listening mode presets are applied when the source is selected. Each input format except mono has a setting. **To disable presets, set them to Last Used.**

For descriptions of surround modes and when they're applicable refer to section 4.6. Spend some time listening to various modes with various sources before deciding which presets to use.

Listening Mode Presets		A T H E M
Source		1 of 9 (BDP)
2.0		AnthemLogic-Cinema
2.0 Dolby Digital Surround		PLIIx Movie
Multi Channel PCM		PLIIx Movie
5.1 Dolby Digital		None
Dolby Digital Surround EX		None
5.1 DTS		None
DTS-ES		None

2.0:

For stereo input select Stereo, AnthemLogic-Music, AnthemLogic-Cinema, PLIIx Movie, PLIIx Music, PLIIx Game, PLII Movie, PLII Music, PLII Game, Dolby PLIIz, Neo:6 Music, Neo:6 Cinema, Dolby VS Wide, Dolby VS Reference, All Channel Stereo, Last Used.

The following apply to digital inputs only:

2.0 Dolby Digital Surround:

For surround-flagged Dolby Digital 2.0 material select Stereo, PLIIx Movie, PLIIx Music, PLIIx Game, PLII Movie, PLII Music, PLII Game, Dolby PLIIz, Dolby VS Wide, Dolby VS Reference, Last Used.

Multi Channel PCM:

Set your playback preference for multichannel PCM (via HDMI): None, PLIIx Movie, PLIIx Music, PLII Movie, PLII Music, Dolby PLIIz, Neo:6 Cinema, Neo:6 Music, Dolby VS Wide, Dolby VS Reference, Last Used.

5.1 Dolby Digital:

Set your playback preference for Dolby Digital 5.1 material: None, PLIIx Movie, PLIIx Music, Dolby PLIIz, Dolby Digital EX, Dolby VS Wide, Dolby VS Reference, Last Used.

Dolby Digital Surround EX:

For material encoded in Dolby Digital Surround EX: None, PLIIx Movie, PLIIx Music, Dolby PLIIz, Same As Dolby D-5.1, Dolby VS Wide, Dolby VS Reference, Last Used.

5.1 DTS:

For DTS: None, Neo:6 Cinema, Neo:6 Music, Dolby PLIIz, Dolby VS Wide, Dolby VS Reference, Last Used.

DTS-ES

For DTS-ES: None, Dolby PLIIz, Same As DTS-5.1, Dolby VS Wide, Dolby VS Reference, Last Used. Note that for ES Discrete, this setting is overridden and playback is in 6.1.

3.7 VIDEO MODE PRESETS

Compensation is provided here for less than ideal video sources that cannot be adjusted internally. If possible check performance of each video source through test patterns. Unfortunately, these days the sources that need adjustment most are also the least likely to have test patterns available for them, for example bad satellite channels.

Video Mode Presets		A T H E M
Source	1 of 9 (BDP)	
Brightness		0
Contrast		0
Color		0
MPEG Noise Reduction		Off
Cross Color Suppression		On
Film Mode Detection		On

Brightness:

This controls black level. If the picture from a source appears hazy, lower brightness. If differences in dark areas of the picture cannot be made out, increase brightness.

Contrast:

This controls white level. If bright scenes appear too bright, lower contrast so differences in bright areas can be made out. If the picture appears dull, increase brightness but not to the point that bright white objects such as clouds on a sunny day lose detail.

Color:

This controls the amount of color. Adjust so familiar colors such as skin tones appear natural.

MPEG Noise Reduction:

Enable if compressed digital video sources have an abundance of motion artifacts.

Cross Color Suppression:

Try enabling if still images that have gone through a composite video stage contain rapidly flashing rainbow-colored artifacts.

Film Mode Detection:

This should almost always be left on. Film mode discerns between interlaced 60 Hz sources recorded with a video camera and those that originated with 24 frame per second film, and deinterlaces accordingly. Unusual sources can cause the deinterlacer to put out an erratic picture – in such a case try disabling film mode.

3.8 DISPLAYS / TIMEOUT

This menu allows you to configure on-screen display, front panel display, and selection time.

Displays/Timeout		A T H E M
Display Brightness		Dim
Front Panel Wake Up		Up 1
Display Timeout		5 s
Video Mute		Black
Status Message		On
Status Message Timeout		3 s
Setup Menu Timeout		5 min

Display Brightness:

Lets you select between bright, dim, or no front panel display.

Front Panel Wake Up:

If Display Brightness is set to Dim or Off, it can be made to change to a brighter level while you make any adjustment – choose None, Up 1 brightness level, or Bright. When None is chosen and the display is off, it will behave as if set to Up 1 to prevent confusion as to whether the power is on or off.

Display Timeout:

This is the time that elapses after an adjustment is made in any path. After that, on-screen text disappears, the front panel becomes dim, and the regular MAIN display returns. Adjustable from 1 to 15 seconds.

Video Mute:

For when there's no video input, select the "no signal" output – black, magenta, or blue screen.

Status Message:

To disable on-screen info shown when changing volume, source, etc, turn this setting Off.

Status Message Timeout:

Set the amount of time that the status message remains on-screen.

Setup Menu Timeout:

Set the amount of time that the setup menu remains on-screen, up to 15 minutes. It should not be left on long enough to damage the display, if it is a type that is prone to image retention (burn-in).

3.9 TRIGGER CONFIGURATION

When the receiver's trigger output is connected to the trigger input of another component, such as an amplifier or projector, the receiver can turn it on or off according to the trigger's setup. For components that do not have trigger inputs, a triggerable power bar may work (see your dealer).

Trigger Configuration		A T H E M	
		Main	Z2
Power		*	*
BDP		NA	NA
CD		NA	NA
TV		NA	NA
SAT		NA	NA
GAME		NA	NA
AUX		NA	NA
MEDIA		NA	NA
TUNER		NA	NA
iPod		NA	NA
Trigger Delay		2 s	0-15s (1s step)

In the example shown, the trigger activates while Main or Zone 2 power is turned on. Trigger outputs can also be set to activate according to source instead of Power.

After highlighting Power or a source, press **SELECT** and use the ◀ ▶ buttons to select Main or Z2. To set the condition, use the ▲ ▼ buttons to change the "NA" to a "-".

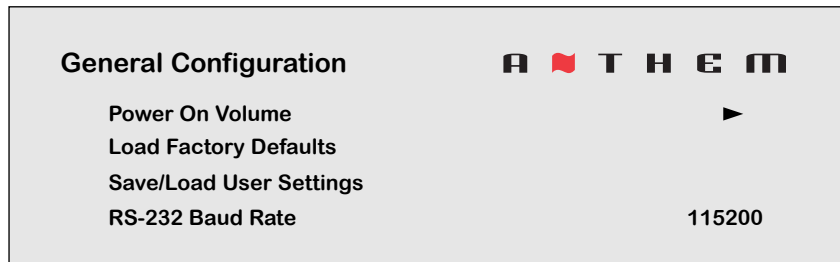
Trigger action can be set to be delayed up to 15 seconds, in 1-second steps.

Changes to the trigger setup do not take effect until exiting from the setup menu, to avoid unnecessary rapid turning off and on of triggers while making changes.

3. SETUP continued ...

3.10 GENERAL CONFIGURATION

This menu allows you to define the power-on volume settings, save/load settings, and configure RS-232.



Power-On Volume:

When you turn Main or Zone 2, the volume for each will be at the levels you have set in this menu. This prevents surprises when not knowing the volume someone had set when turning the receiver off, then having the power-on volume be too loud or quiet. The default is -35 dB.

Load Factory Defaults:

After selecting and confirming, all menu settings will be reset.

Save/Load User Settings:

After selecting Save User Settings and confirming, all menu settings will be stored. If you change settings later and want to recall the saved settings, select Load User Settings and confirm.

RS-232 Baud Rate (normally for use only by custom installers):

Select 19200 or 115200.

3. SETUP continued ...

3.11 ANTHEM ROOM CORRECTION (ARC)

ARC corrects the effects of reflective surfaces and room boundaries on sound quality by measuring the response of each speaker relative to the listening area and equalizing it. ARC equalizes response without stressing the amplifier or speakers and does not downsample the source material to process it. ARC's filters are neither graphic nor parametric – ARC is a sophisticated system that flattens response using its ability to create practically any suitable function, inherently correcting phase effects created by the room.

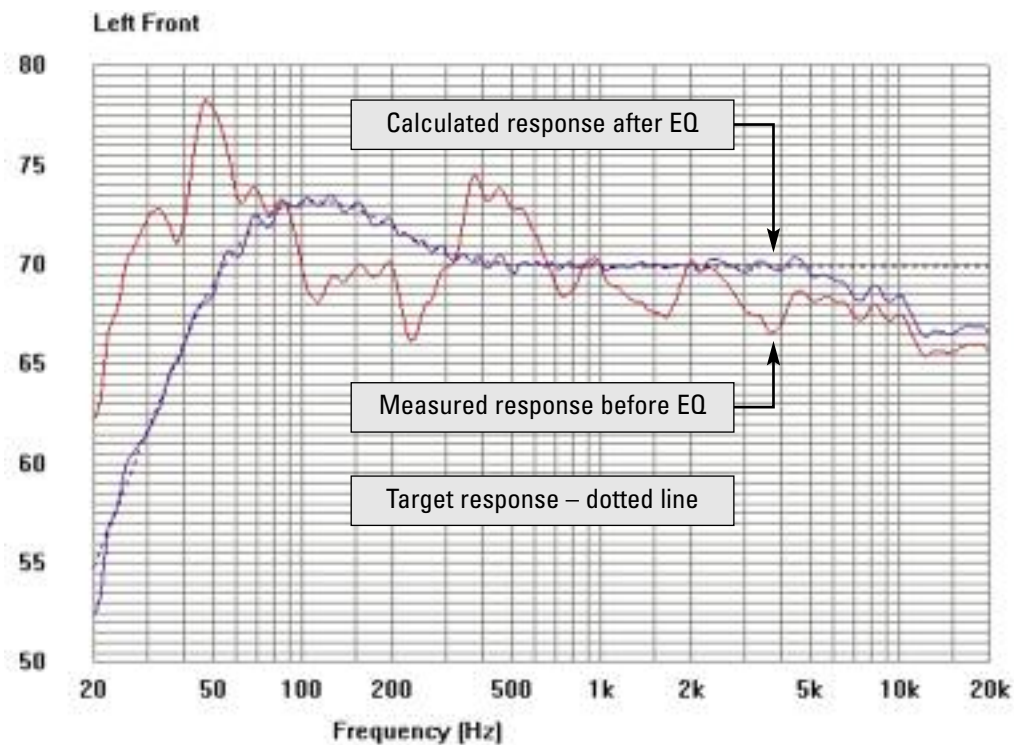
The default correction range is up to 5 kHz. Although the limit can be changed if needed, a higher one is generally not advised since the microphone becomes directional at upper frequencies, affecting measurement accuracy especially if the height of the speaker's high frequency driver is not at ear level.

ARC also detects how much the room reinforces low frequencies due to its boundaries and pressurization. This room gain shows as a bump in the target response. ARC does not remove it because if flattened, bass sounds thin. Ideal anechoic speaker response, a straight line as measured in a special non-reverberant facility, is not the same as ideal in-room response which normally includes, to varying degree, this room gain.

ARC senses where each speaker's low-frequency response declines and sets high-pass filters accordingly.

Calibration is set such that average level is the same when comparing EQ "On" vs "Off". Note that to set levels ARC uses a midrange band that's wider than the standard home theater setup noise, which is centered at 1 kHz and narrow so there's no chance its level would be reduced by a crossover.

Sample response:



EQ is also available for my subwoofer(s) – should I use it?

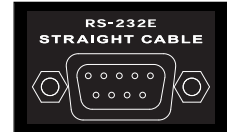
Since rooms and correction systems, the answer varies although it is best to disable the subwoofer's EQ before running ARC. If the resulting calculated and target curves resemble each other, there is usually no reason to use the sub's EQ. If the curves significantly differ through a wide range, enable the sub's EQ and run ARC again to see if it helps. If you have run ARC with the sub's EQ enabled, ARC must be run again once the sub's EQ is turned off.

Multiple Paradigm subs with PBK: Results are often better with PBK run on each sub before using ARC.

3. SETUP continued ...

Before starting:

- Ensure that the receiver software and ARC software that you will be using are compatible with one another – check www.anthemAV.com for latest versions. Receiver software installation instructions are in section 4.11 and in software download.
- Your ARC microphone, its support files and your receiver are a system with matching serial numbers. Before a mic can be used for measurement, its response must be known. Each ARC microphone's frequency response is measured precisely and this data is used to create your microphone calibration file.
- Your computer must be running Windows XP or later and have one 9-pin serial port (for connecting the receiver) and one USB port (for connecting the mic), or one USB port and one card slot and a serial card, or two USB ports and a USB to serial adapter. The latter is least preferred.



If using a USB to serial adapter to connect the receiver:

1. It must be one that supports two stop bits – check with adapter manufacturer.
 2. Check the adapter manufacturer's website for the latest driver. If a message warns that the driver is not Windows-certified as it's about to be installed, do not use the adapter. Some "budget" adapters load bad data into the receiver, possibly causing its operation to freeze.
 3. The virtual port must be assigned to COM1-COM6. If the receiver software installer cannot locate the receiver, use your adapter's port manager to check the setting.
- If you are using a laptop computer, check its power settings and battery meter to ensure that procedures will not be interrupted.
 - If the room contains large objects that won't be present during the system's normal use, move them out so ARC doesn't pick up reflections that won't be present during normal use.
 - While taking measurements it would be best to keep pets and younger or talkative family members out of hearing range. The measurements reject continuous background noise such as fans but if a sudden noise is made ARC will indicate that re-measurement is required.
 - Two configurations may be saved – one under Movie bass management and the other under Music.

Additional instructions for Mac computer use:

An Intel-based Mac with Bootcamp is required (ARC does not work with Parallels). To install Bootcamp:

- Do a Spotlight search for Bootcamp.
- Follow installation instructions to the letter – this involves partitioning the hard drive.
- After Bootcamp is installed, hold the Option key during bootup to display the two operating system options and select Windows.

3. SETUP continued ...

ARC software installation:

Play the ARC CD in your computer's CD or DVD drive. Instructions will appear on your screen. If your computer does not allow a CD to auto-run then double-click on the My Computer icon that's on Desktop, select the drive that the CD is in to view its contents, and double-click on setup.exe.

The installation will put several files into an Anthem folder on your computer and create shortcuts on your Start Menu and Desktop. Example: 200001.cal.

Custom installers: To set up multiple systems using one computer, copy the serialized files from each ARC CD to this directory after ARC is installed:

My Computer, Local Disk C:\Program Files\Anthem\AnthemRoomCorrection

Microphone stand assembly:

Screw the microphone clip onto the tube. Position the clip vertically. Connect the USB microphone cable to the microphone and slide the microphone into the clip.

Microphone positioning:

During measurement the microphone must point straight up. The microphone's height is critical to proper measurement and should be at ear level when seated.

Ideally, the front speakers' high-frequency drivers should be at approximately the same height as the listener's ears but if they aren't and the result sounds dull or bright, microphone height will have to be adjusted and measurements repeated.

To adjust the length of the telescoping tube, first loosen its clamp by rotating it counterclockwise.

Five listening area positions are normally measured but this number can be increased up to ten. The first must be at or just in front of the central seating position. This is also used to set Speaker Calibration levels. Positions 2 and 3 should be symmetric to the left and the right of the center line, and the same applies to the remaining positions. If your room has less than five seating positions, measurements must still be taken from five positions at least 2 feet (70 cm) apart to ensure optimal sound.

Measurement:

- Connect the microphone and the receiver to the computer.
- Set the microphone in the first position. Don't stand near the microphone while sweep tones are playing otherwise reflections from your body may cause bad measurements.
- Run Anthem Room Correction by selecting it from the Start Menu or double-clicking the Desktop shortcut and select Automatic mode. The program will guide you through the remaining steps and at the end will load the correction data to your receiver. The process takes about 20 minutes depending on the number of measurements.
- Once the ARC program is finished, you can disconnect the computer. Turn on the receiver and set "Room EQ:" On/Off in the Source Setup menu according to each source. If you made measurements for a Music configuration, assign Bass Manager accordingly.
- Save your settings in the Save / Load Settings menu. Note that changing the Sub crossover in the Bass Management menu affects only Room EQ "Off" sources.

Quick Measure – speaker position helper:

If the subwoofer's position is flexible you can try this before running ARC. Proceed as above but select Manual mode instead of Automatic. Under "Tools" select Quick Measure then click on Connect, select Subwoofer or any other speaker if its position is also flexible, and click Start. After approximately 10 sweeps the graph will show a live update of the uncorrected measurement. Try different locations for the speaker and leave it where the uncorrected graph is flattest. Once this is determined, run ARC normally.

3. SETUP continued ...

Manual mode:

A file created in Automatic mode can be opened in Manual mode to change correction range and room gain. To do this, change Targets then click on Calculate, then Upload.

Since rooms and systems vary the only advice that Anthem technical support can provide without being at your house to hear your system is to use the auto-detected settings. The alternative is trial and error.

To change the amount of room gain, the Force checkbox has to be checked for the manually entered change in dB to take effect once clicking on Calculate. Auto-detected room gain will be at or near 0 dB if bass absorbers are used or the in-room response of the speakers shows no such gain.

To restore auto-detected settings, click on Auto Detect then Calculate.

Clicking on Erase uploads flat parameters.

Can one set of measurements be used across Movie and Music speaker configurations but with different settings applied? Can the subwoofer be disabled only in the Music configuration?

The answer to both questions is yes.

- When measuring (Automatic or Manual), set the Music configuration to be Same As Movie.
- In the Manual mode Targets panel change settings as desired.
- To omit the subwoofer, change its frequency to No Speaker by making it lower than 25 Hz. This can be done with the scroll arrow or by removing the frequency with the cursor and Backspace key on the computer's keyboard. Removing the center or surround speakers is not necessary for listening to 2-channel sources in stereo – if a surround mode is not selected (section 4.8), sound will not come from the center and surround speakers.

Updating ARC:

Check www.anthemAV.com periodically for ARC software updates. The download contains revision history, which may also indicate that the receiver requires an update for the ARC version to work correctly.

If a newer version is posted and you would like to use it, check your current version:

- Run Anthem Room Correction.
- Click on About. The version number will be displayed.

Proceed only if your version is not the latest:

- Download the latest software from our web site to Desktop.
- When download is complete, right-click on the downloaded .zip file and extract it to Desktop.
- Open the extracted folder and double click on setup. Software installation instructions will appear on your screen. **If you are installing ARC on the computer for the first time, copy your serialized file(s) from your software CD to the extracted folder on Desktop before double-clicking on setup.** This way they will be added to Program Files as the software is installed.
- When installation is complete, you can delete the downloaded file and the extracted folder.

To use a measurement made with a previous version with a newer version that has changes in processing, open it in Manual mode, click on Calculate then Upload.

3.12 MULTIMEDIA

iPod (optional MDX 1 dock required):

To set up iPod connection use on-screen display. First, use input selection on front panel or remote to select iPod input. If using the front panel input selection, the button may have to be pressed more than once to cycle through Internet Radio, USB, and iPod.

Once iPod input is selected, use navigation keys to select iPod settings. Here you can select audio and video connection types between the iPod and the MDX 1. For audio connection, select Digital if using your iPod or iPhone exclusively for music playback (digital option is not available on MRX 300). This provides the purest sound, bypassing the analog section in the iPod/iPhone. Select Analog if you will be playing video (this prevents lip-sync issues) or if you will be sending audio to Zone 2.

For video, select S-Video if iPod video player is an older model that does not support Component video.

vTuner Internet Radio (not available on MRX 300):



vTuner finds a very large number of internet broadcasts and organizes the stations.

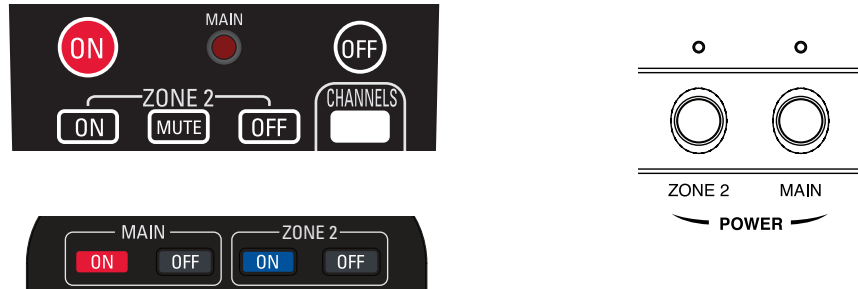
Initial setup: Connect receiver to Internet-enabled Ethernet and select Internet Radio through the MEDIA input selector (it may need to be pressed 2-3 times as it cycles through Internet Radio, iPod, and USB). If a firewall is preventing the receiver from connecting to the Internet, change settings in the firewall so the receiver's MAC address is allowed. The MAC address is displayed on-screen in the network settings.

Optional online setup: You may find it easier to organize favorites through your computer. To do so, select Internet Radio, through the MEDIA input selector then press Select. Once you do this the on-screen display will display "Get access code". Use this 8-digit code to register on <http://anthem.vtuner.com> (no "www"). Your computer screen will display the same info that the receiver's on-screen display does, but more is shown at once making it easier to browse and select favorites, and stream type and bit rate are also shown. After registering you can select favorite stations and create groups to add your favorites to. These will instantly appear in the receiver's on-screen display.

4. OPERATION

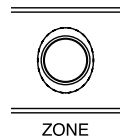
4.1 POWER ON AND OFF

Main and Zone 2 have separate power controls. Volume comes on according to setup menu setting.



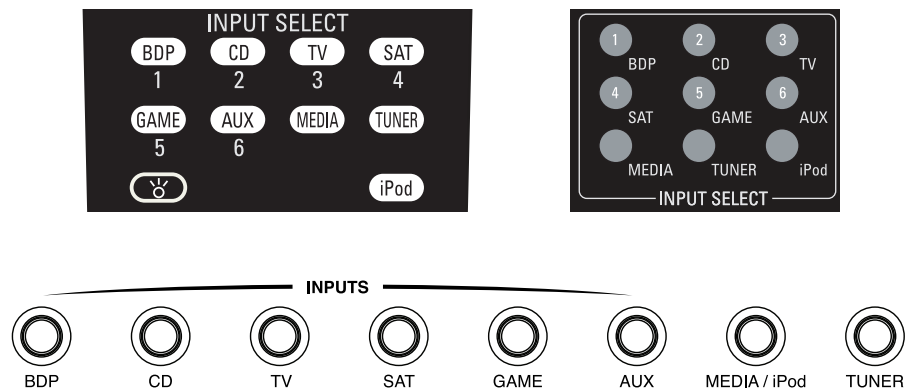
4.2 ZONE SELECTION

During the timeout period after pressing ZONE, select Zone 2 source. This routes analog audio and composite video sources to another part of your home.



4.3 SOURCE SELECTION

Select a source through the input buttons. Pressing MEDIA repeatedly cycles, according to availability of these sources, through Internet Radio and USB on the remote control, and Internet Radio, iPod, and USB on the front panel. The remote control MEDIA buttons have no function on the MRX 300.



4. OPERATION continued ...

4.3.1 TUNER

AM/FM Tuning:

After selecting the desired band by pressing **TUNER**, use the **▲ ▼** buttons to change frequency.

AM/FM Presets:

30 stations can be stored. To store a station press and hold **PRESETS** on the remote control then assign a number from 01 to 30. To recall a preset enter the assigned number. Presets are divided into four banks of six. To scan presets press **PRESETS** or **PRESETS SCAN** then use the **◀ ▶** buttons.



HD Radio reception (MRX 700 US model only):

If your local radio stations broadcast an HD Radio signal, the receiver will use this signal. In the absence of such a signal, the receiver will use the regular analog signal. HD Radio broadcasting is a digital method that results in higher audio quality, preventing static, hiss, pops, and fading sound. As well, song title, album and artist are displayed during HD Radio reception.

iTunes tagging (MRX 700 US model only):

If you wish to purchase the song being played by an HD Radio station through your iTunes account, press **TAG** on the remote control while the song is playing. Tagged song info is saved and transferred to your iPod or iPhone once it is connected to the optional MDX 1 dock. In turn, the next time that your player is connected to iTunes, the tagged songs will be listed and you can then purchase them.



4.3.2 MULTIMEDIA

The receiver can play audio from these sources:

vTuner Internet Radio (not available on MRX 300):

Press **MEDIA** once or twice so "Internet Radio" is displayed. Use on-screen display to browse through a large number of stations and Podcasts from across the world and make selections. Stations are organized by genre, popularity, country, sound quality, and other categories.

USB mass storage devices (not available on MRX 300):

Press **MEDIA** once or twice so "USB" is displayed and connect a USB flash memory stick, hard disk drive or personal music player with generic folder-based file system. Supported file types are mp3, wav, wma 9, wma variable bit rate, wma lossless

Mass storage devices must use NTFS, FAT12, FAT16, FAT32, HFS or HFS+ formatting to be compatible. Note that with NTFS, encrypted files, security IDs, ACLs, and alternate data streams are not supported. With HFS/HFS+, the system is read-only.

The first time that a mass storage device containing thousands of files is connected, some time may be needed for indexing before they are displayed. Once indexing is complete, less time will be needed the next time the same device is connected, unless its formatting is HFS/HFS+.

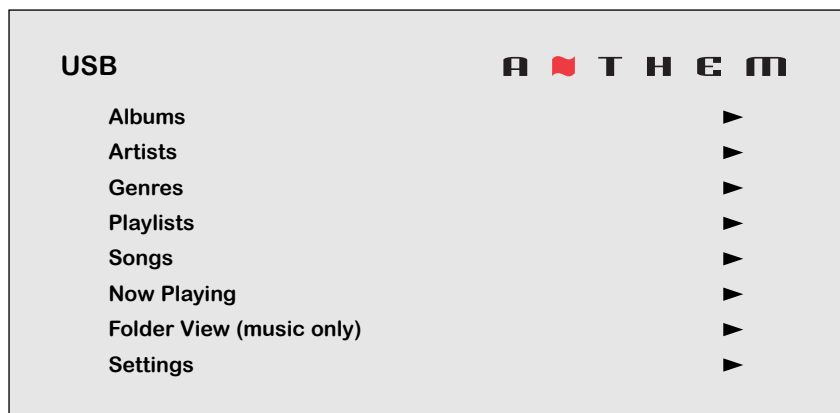
iPod/iPhone (optional MDX 1 dock required):

Once an iPod or iPhone is docked, the song category list appears on-screen. Use navigation keys to browse and select songs or videos, and green key on remote to set random play or shuffle mode. Early-generation iPods are not compatible.

For faster scrolling use the **PAGE** keys on the remote control.

4. OPERATION continued ...

When using USB media this on-screen display appears:



Songs that do not contain identification other than file name appear under “unknown” Albums or Artists – in such cases Folder View may be a better browsing method.

4.4 LEVEL TRIM

If a speaker group occasionally sounds too loud or soft, its level can be adjusted on the fly. To access each channel's level adjustment without entering the setup menu press **CHANNELS** and adjust using the \blacktriangle \blacktriangledown keys. The first press accesses Front Left, followed by each remaining channel with repeated presses. LFE follows Subwoofer and can be reduced relative to the source without affecting bass from other channels.



4.5 AUDIO ADJUSTMENTS

To change the Bass, Treble, Lip-Sync, or listening mode press **AUDIO** to cycle through options. Adjust using the up/down keys.



4.6 LISTENING MODES

A surround mode is signal processing that enhances source material. Surround modes fall in two main categories – those that apply to **stereo** sources and those that apply to **multichannel** sources.

Stereo Sources:

This includes analog stereo, digital PCM stereo, and Dolby Digital 2.0. Surround modes can be applied to provide 7.1 channels of output. They are described later in this section. Each source memorizes its mode setting, so you can, for example, set TV to AnthemLogic-Cinema and CD to AnthemLogic-Music.

Multichannel Sources:

The receiver engages decoding according to the format that you select on each DVD. Once the receiver's display shows the format, you can select additional processing described throughout this section. Your selections are memorized by format and by source.

4. OPERATION continued ...

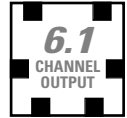
4.6.1 AnthemLogic™



These are proprietary surround modes developed by Anthem that offer outstanding surround performance and can be applied to any 2-channel source:

AnthemLogic-Music™

AnthemLogic-Music™ enhances the stereo listening experience without detracting from the stereo soundstage. Through extensive listening tests a very effective design was developed. This is a minimalist design that uses no echo or reverberation effects which could negatively affect the purity of the sound.



Up to 6.1 channels of output are provided. AnthemLogic-Music™ does not utilize the center channel to ensure that the purity of the stereo music soundstage will in no way be compromised when you're sitting in the "sweet spot" and listening to your favorite stereo recordings.

AnthemLogic-Music™ is very effective in creating an expansive musical soundstage that helps to remove the barrier of the listening room in a non-intrusive and compelling way.

AnthemLogic-Cinema™

AnthemLogic-Cinema™ provides a large, enveloping and dynamic movie listening experience that makes 2-channel movies sound more like what is experienced in a state-of-the art movie theater. Again through extensive listening tests a very effective design was developed. This is also a minimalist design that avoids the use of echo effects, which could otherwise negatively affect the purity of the sound.



Up to 7.1 channels of output, depending on your speaker configuration. AnthemLogic-Cinema™ provides the missing link that lets you experience full impact home theater sound from any 2-channel source.

4. OPERATION continued ...

4.6.2 DOLBY DIGITAL 2.0



Dolby Digital 2.0 soundtracks with surround encoding contain a flag that is normally used to activate Pro Logic IIx Movie mode. The modes in the next section may be selected separately for flagged and unflagged stereo sources.

4.6.3 SURROUND MODES FOR 2.0-CHANNEL SOURCES

Number of output channels is indicated. Press **AUDIO** then use the ▲ ▼ (up/down) keys to select:

Stereo	No surround mode is applied.
AnthemLogic-Music	One of Anthem's proprietary surround modes, designed to expand the soundstage of stereo music in a very natural way without losing soundstage integrity or image focus. The center channel is not used.
AnthemLogic-Cinema	Another proprietary mode from Anthem, designed to provide the impact of a large theater experience from 2-channel movies and TV programs.
Pro Logic IIx Movie	Dolby Surround decoder for 2-channel movies and TV programs.
Pro Logic IIx Music	Can be used with stereo music to make it more compelling.
Pro Logic IIx Game	Bass from surround effects in video games is optimized for visceral impact.
Dolby Pro Logic IIz	Improves the spatial experience through front ceiling speakers. This takes effect if Pro Logic IIx is selected while Main Ceiling speakers are selected in the speaker configuration setup.
Neo:6 Music	A matrix decoder for stereo music.
Neo:6 Cinema	A matrix decoder that can be used with any matrix-encoded movie. Separation is created by allowing sounds to be placed at different points in the sound field.
All Channel Stereo	The left and right channels are also sent to the surround and rear channels, while the center channel and subwoofer receive a combination of both. Some processing is used to retain image clarity. Useful for playing music at parties so it can be heard with equal loudness in all parts of the room.

Why can't I select a surround mode when playing a multichannel source?

1. If it's not PCM and its sampling rate higher than 96 kHz, surround processing may not be applicable.
2. If you are using less than 7.1 speakers and the speaker configuration menu is set correctly, modes that require more speakers cannot be selected.

4.6.4 DOLBY VIRTUAL SPEAKER

If your system uses two speakers you can use Dolby Virtual Speaker listening modes to simulate 5.1-channel listening environments. Two options are available – Wide for smaller listening spaces and Reference for more spacious ones. Regardless of the room's size, use the mode that sounds best.

4. OPERATION continued ...

4.6.5 DOLBY DIGITAL



Lossless Dolby TrueHD and various compressed formats including Dolby Digital Plus can be played. The number of input channels ranges up to 7.1.

Dolby Digital EX or Pro Logic IIx can be used to extract rear channels from the surrounds on DVDs encoded in Dolby Digital Surround EX. Dolby Digital EX creates a mono rear signal whereas with Pro Logic IIx the rear channels play a stereo signal. Either of these modes can be applied to any 5.1-channel source.

A list of movies encoded in Dolby Digital Surround EX can be found on the Dolby web site at www.dolby.com and on the THX web site at www.thx.com. A flag to engage Dolby Digital EX or Pro Logic IIx is usually contained in newer titles.

Dialog Normalization:

Dolby Digital program material contains non-audio data which the receiver uses to adjust playback level, when necessary, so volume variations between movies and programs are eliminated. Without Dialog Normalization, movies not encoded at standardized levels for the dialog could lose dynamic range – higher levels can result in distorted peaks, lower levels can result in quiet sounds disappearing into the noise floor.

If the display reads “Dial Norm Offset -4.0 dB” at the start of a movie, it is indicating that the encoded level is higher than standard by 4.0 dB – the playback level of all channels is then automatically reduced by 4 dB.

4.6.6 DTS



Lossless DTS-HD Master Audio and various compressed formats such as DTS-HD High Resolution Audio and DTS-ES can be played. Number of input channels ranges up to 7.1.

There are two ways that a rear channel is carried in DTS-ES:

- **Matrix** – DTS-ES Matrix sources have mono rear channel matrixed in the surround channels of a 5.1-channel DTS soundtrack. This channel is extracted and played through Main Back speakers if they are enabled in the speaker configuration.
- **Discrete** – DTS-ES Discrete sources contain 6.1 channels with an independent rear channel in the space that 5.1 channels normally occupy.

Why isn't my receiver detecting the sound format that I'm trying to play?

A connection carries **one** format at a time and the receiver plays what it gets. Make sure the source's digital audio output is set to leave Dolby Digital and DTS unchanged (Bitstream) in its setup menu. You must also select the soundtrack that you want to hear in each disc's audio or language setup before playing the movie, or while the movie is playing by pressing AUDIO on the player's remote control.

4. OPERATION continued ...

4.6.7 DOLBY VOLUME AND DYNAMIC RANGE CONTROL

To use Dolby Volume according to its settings in the level calibration and source setup menus press **DOLBY VOLUME** then use **▲ ▼** keys to select On/Off.



Dolby Volume is on by default – you can change the default in the setup menu. Sources often have dynamic range controls as well. Be sure to disable them to get the most from the receiver's dynamics control. In some cases the setting names in sources are confusing because "Extended" can mean dynamics are left alone while "Normal" can mean they're reduced. Check source operating manuals to find what their settings mean and under what conditions they apply.

When Dolby Volume is Off another dynamic range control becomes available after **DOLBY VOLUME** is pressed a second time. This also allows you to control the difference between the softest and loudest passages, but only on multichannel Dolby Digital and DTS soundtracks that contain dynamic scaling cues. At least 5.1 speakers must be used. Use the **▲ ▼** keys to select:

- Auto:** This is the default setting for Dolby TrueHD and adjusts dynamic range according to instructions in the soundtrack. Auto is not available for other formats.
- Normal:** No dynamic range modification.
- Reduced:** Allows the quieter parts to be heard more easily, and works by raising the level of quieter sounds and/or reducing the level of louder ones according to cues in the soundtrack.
- Late Night:** Further reduces the softest-to-loudest difference.

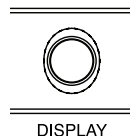
4.7 RESOLUTION

To change the video output resolution without accessing the setup menu, press **RESOLUTION** and select.



4.8 DISPLAY BRIGHTNESS

To change the brightness of the front panel display and LED indicators, press **DIM** on the remote or **DISPLAY** on the front panel and select Bright, Dim, or Off.



4.9 SLEEP TIMER

If you would like to go sleep while listening to a program or music, the Sleep Timer will turn the receiver power off after the selected amount of time. The first **SLEEP** keystroke sets the timer to 30 minutes. Additional keystrokes cycle as follows: Second=60, third=90, fourth=Disabled.



4. OPERATION continued ...

4.10 INFO DISPLAY

Press, Release, Press to cycle through display screens that show the following:



- **Video Input:** Video input jack in use.
- **Audio Input:** Audio input jack in use.
- **Video In Configuration:** Resolution of source.
- **Audio In Configuration:** Format of source.
- **Video Out Configuration:** Resolution to TV.
- **F/W Info:** Firmware versions of main controller, video, audio DSP, multimedia module, and date.

4.11 SOFTWARE UPGRADE – MULTIMEDIA SECTION (not available on MRX 300)

The operational characteristics of the multimedia playback via USB, Internet radio, and optional MDX 1 dock are controlled by software installed through the USB port on the front or rear panel.

Software preparation:

1. Find out which MM version is installed by pressing **INFO**.
2. Go to Anthem's web site www.anthemAV.com and locate the latest software. Proceed only if your version is a lower number, indicating that it is older.
3. Click on the software link. You will be asked where to save a .zip file – save it to Desktop.
4. Double click or right-click on the downloaded file then extract it to Desktop.
5. In the extracted folder see Read Me.txt for the change history.
6. Copy fw_upd.bin to your USB memory device.
7. Plug the USB memory device into the receiver. The remaining instructions will appear on-screen.

4.12 SOFTWARE UPGRADE – MAIN SECTION

The operational characteristics of the receiver are controlled by software installed through the RS-232 port on the rear panel. Updates can be downloaded from our web site and installed afterwards.

For computer and connection requirements, see section 3.11.

Software installation:

1. Find out which version is installed by pressing **INFO**.
2. Go to Anthem's web site www.anthemAV.com and locate the latest software. Proceed only if your version is a lower number, indicating that it is older.
3. Click on the software link. You will be asked where to save a .zip file – save it to Desktop.
4. Double click or right-click on the downloaded file then extract it to Desktop.
5. In the extracted folder see Read Me.txt for the change history.
6. Double click on Installer.exe. The remaining instructions will appear.

Troubleshooting:

If the installer keeps returning a message saying that the processor is not found, make sure that the serial port on your computer isn't being used by another application – you must go into the application that is using it to turn off the serial port.

SPECIFICATIONS

PREAMPLIFIER

Frequency Response at 2 Vrms	20 Hz to 20 kHz (+0, -0.25 dB)
THD+N	0.004% (1.25 Vrms), <0.01% (2 Vrms)
S/N Ratio at 2 Vrms, IEC-A filter	102 dB
Crosstalk at 2 Vrms	-106 dB
Output Impedance	470 Ω
Maximum Output at <0.1% THD	4.9 Vrms

AMPLIFIER

MRX 700:	2 channels driven (20 Hz to 20 kHz, 0.1% THD)	120 W continuous RMS into 8 Ω
	5 channels driven	90 W continuous RMS into 8 Ω
MRX 500:	2 channels driven (20 Hz to 20 kHz, 0.1% THD)	100 W continuous RMS into 8 Ω
	5 channels driven	75 W continuous RMS into 8 Ω
MRX 300:	2 channels driven (20 Hz to 20 kHz, 0.1% THD)	80 W continuous RMS into 8 Ω
	5 channels driven	60 W continuous RMS into 8 Ω

PREAMPLIFIER + AMPLIFIER

Frequency Response at full power output	10 Hz to 30 kHz (+0, -0.5 dB)
THD+N at 1W output	<0.02% (20 Hz to 20 kHz)
S/N Ratio at full power output, IEC-A filter	101 dB

RS-232

Connection	DB-9F, straight-wired
Pinout (MRX side)	Pin 2: Tx, Pin 3: Rx, Pin 5: Ground
Baud rates	19200, 115200
Configuration	8 data bits, 1 stop bit, no parity bits, flow control (None, RTS/CTS)

POWER REQUIREMENT

Consumption	Maximum 500 W
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Low voltage version: In countries where the line voltage is 120V, this product operates from a single phase AC power source that supplies between 108V and 132V at a frequency of 60 Hz.

High voltage version: In countries where the line voltage is 220, 230, or 240V, this product operates from a single phase AC power source that supplies between 198V and 264V at a frequency of 50 or 60 Hz.

DIMENSIONS

Height	6 1/2 in. (16.4 cm) including feet (4 rack units with special rackmount)
Width	17 1/4 in. (43.9 cm)
Depth	15 1/4 in. (39 cm)
Weight (unpacked, not including 5 lb (2.2 kg) ARC microphone kit)	31 lb (14 kg)

LIMITED WARRANTY

CANADA & USA

The warranty period on new Anthem products is:

- 5 years: Separate power amplifiers and integrated amplifiers
- 3 years: Audio/Video preamplifiers and receivers
- 2 years: Projectors, Blu-ray players
- 6 months: Projector lamps

The warranty period begins on the date of purchase from Anthem or an Authorized Anthem Dealer. If Anthem determines that the product has a defect in materials or manufacturing during the warranty period Anthem will at its option repair, replace or provide the necessary replacement parts without charging for parts or labor. Repaired or replaced equipment or parts supplied under this warranty are covered by the unexpired portion of the warranty.

This warranty is transferable only if the re-sold product is purchased from an Authorized Anthem Dealer. Display products sold by an Authorized Anthem Dealer are covered by the same warranty except that the period commences on the date of the dealer invoice, not the purchaser's invoice, and cosmetic flaws are excluded.

Warranty is void if the serial number has been removed, altered or defaced, if the product has been operated, installed or handled other than in accordance with the intended application, tampered with, modified, or damaged by accident, while in transport or by failure of electric power, or has been repaired by a non-authorized party. Anthem shall have no obligation to correct any defect that is not reproducible by Anthem. If inspection by Anthem discloses that the repair required is not covered by this warranty, regular repair charges shall apply.

If a problem is discovered in your Anthem product, please contact the Authorized Anthem Dealer from whom you purchased the product. Your dealer will help to determine the cause of the problem and arrange for the appropriate action. Alternatively, follow the procedure below for factory service.

A Return Authorization (RA) number must be obtained from Anthem Technical Support before a product can be shipped to Anthem for any reason. Product shipped to Anthem without its RA Number clearly visible on the outside of the shipping carton will be refused and returned to the sender, freight collect. Product shipped to Anthem must have shipping and insurance prepaid by the sender, be packaged in the original carton and packing material and accompanied by a written description of the defect. Service will not be given under warranty without an accompanying copy of the sales invoice. Product repaired under warranty will be returned with shipping and insurance prepaid by Anthem (within Canada and continental USA only).

Disclaimer of Liability

Under no circumstances shall Anthem, its agents, representatives or employees assume liability or responsibility for injury or damages sustained in the use or operation of Anthem products or for damages to connected products. Some jurisdictions do not allow limitations of incidental or consequential damages so this exclusion may not apply to you.

Anthem reserves the right to make design changes without obligation to revise prior versions. All specifications are subject to change without notice.

This warranty shall be the sole and exclusive remedy to you. No other warranty or condition, statutory or otherwise, expressed or implied, shall be imposed upon Anthem nor shall any representation made by any person, including a representative or agent of Anthem, be effective to extend the warranty coverage provided herein.

On the expiration of the warranty all liability of Anthem in connection with the product shall terminate.

INTERNATIONAL

Terms and conditions are set and maintained by the Authorized Anthem Distributor, not Anthem.



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DESIGNED AND MANUFACTURED IN NORTH AMERICA

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